

Amendments to the Specification

Please REPLACE the paragraph beginning at page 36, line 28, and ending at page 37, line 29, with the following amended paragraph:

A second strip of recycled kraft paper 21, identical to paper 10, is pulled from supply roll 22, passed around guide roller ~~56~~ 59, tension roller ~~57~~ 60, and guide roller ~~58~~ 61, and then is impregnated with the same epoxy resin composition, which is sprayed onto the upperside of paper 21 from spray bar 23. Meanwhile, polyester cloth 25 is pulled off its supply roll 26, passed around guide roller ~~59~~ 56, tension roller ~~60~~ 57, guide roller ~~61~~ 58, and second tension roller 28, and then is sprayed on its underside with the same epoxy resin composition from spray bar 27. Cloth 25 is identical to cloth 14. Resin-impregnated cloth 25 is pulled into laminating station 29 where it is pressed against the inside bottom of paper 21, yielding the assembly illustrated in Figure 1E. At folding station 24 (equipment not shown) the edges of paper 21 are bent upward, creating an upward-facing C channel, as shown in Figure 1F. The combination of paper C channel 21 and polyester cloth strip 25 is pulled past ejection nozzle 30 where a mixture of matrix resin precursor components and filler solids is deposited on cloth strip 25. As shown in Figure 1G, the mixture deposit 31 consists of filler solids 32 suspended in a fluid mixture 33 of the components that will react to form a rigid, thermoset, polymeric foam. The combination of C channel, cloth, and core material precursor mixture 31, as shown in Figure 1G, is then pulled toward continuous molder 37. Before that combination enters molder 37, however, the laminated strips of paper 10 and cloth 14 are guided by roller 34 into position above bottom C channel 21, as shown in Figure 1H. Then top paper 10 is bent at folding station 13 (equipment not shown) into a downward-facing C channel that overlaps upward facing C channel 21, as shown in Figure

11. That assembly is then pulled through continuous molder 37, which is maintained at an optimum temperature for assisting the forming, foaming, and setting of the resin precursor fluid 33, to yield cellular matrix resin 38, as shown in Figure 1J, which is a cross-sectional representation of the finished board. The interior (not shown) of continuous molder 37 is, in effect, an external die that holds the assembly of paper, cloth, and core material mixture in the desired cross-sectional shape. Pressure that presses the paper and cloth against the interior wall of continuous molder 37 is generated by the hot gas that is causing the resin to foam.

Please REPLACE the paragraph at page 38, lines 12-21, with the following amended paragraph:

Another process for making a composite board of the present invention is schematically illustrated in Figures 3 and 4. In Figure 3, two-ply paper 101, which has an internal barrier layer of poly(vinyl alcohol), is fed from roll 102 over guide roller 103 through an epoxy resin applicator 104, using known technology and equipment for manufacturing paper and plastic laminates. Polyester scrim ~~106~~ 131 is taken off roll 107 and also is passed through epoxy resin applicator 104. At the same time, single-ply paper 108 is taken off roll 109 and also is passed through epoxy resin applicator 104. The liquid epoxy resin precursor composition 113 (hereinafter called “epoxy resin,” for short) is delivered through supply nozzle 110 to the space between papers 101 and 108.

Please REPLACE the paragraph beginning at page 38, line 26, and ending at page 39, line 3, with the following amended paragraph:

After leaving epoxy resin applicator 104, papers 101 and 108 and scrim ~~106~~ 131 pass downwardly between calender rollers 105 and 106, forming an unset laminate 111. The span of time between the application of the resin and emergence of the laminate 111 from rollers 105 and 106 is short enough that little or no epoxy resin bleeds through paper 108 during that interval. However, as a precaution, a gravure blade 112 rides against calender 106 to scrape off any epoxy resin that does get transferred to that surface.

Please REPLACE the paragraph at page 39, lines 4-10, with the following amended paragraph:

Scrim ~~106~~ 131 is sufficiently porous that epoxy resin 113 is easily pressed through the scrim by calenders 105 and 106. The flexible laminate 111 passes over guide roller 114 and then weaves its way over and under the array of festoon rollers 115. The space between the upper and lower gangs of festoon rollers 115 is set by computer so that the time required for the laminate 111 to complete the trip through the array allows the epoxy resin to partially set, but not rigidify. Rollers 115 can optionally be heated to speed up the setting of the epoxy resin.

Please REPLACE the paragraph at page 40, lines 22-27, with the following amended paragraph:

Once the process of Figures 3 and 4 has passed the start-up phase and is yielding a rigid composite 129 that is being pulled by tractor mechanism 130, tension can be applied to

scrim ~~106~~ 131. Tension can also be applied to paper 101 and/or paper 108. Preferably, enough tension is applied to paper 101 to keep a smooth and even outer surface all around the finished composite 129. Generally, machine tension will be sufficient for this purpose.